(11) Japanese Patent Laid-Open No. 10-269752

(43) Laid-Open Date: October 9, 1998

(21) Application No. 9-67851

(22) Application Date: March 21, 1997

(71) Applicant: MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

(72) Inventor: Atsushi HORIOKA

(72) Inventor: Kazuaki OHARA

(72) Inventor: Kyouji TAKEDA

(74) Agent: Patent Attorney, Ken-ichi HAYASE et al.

(54) [Title of the Invention] TELEVISION PROGRAM RECORDING SYSTEM AND BROADCAST RECEPTION APPARATUS

(57) [Abstract]

[Object] To provide a television program recording system that enables a user to quickly recognize a detailed content structure of a recorded program, and a broadcast reception apparatus used in the television program recording system.

[Solving Means] A broadcast station broadcasts, together with a television program, program information that includes program portion information of each of a plurality of program portions obtained by dividing the whole television program. The program portion information indicates a pair of item name 1 assigned on the basis of content of the program portion and time 2 at which the program portion is broadcast. A broadcast reception apparatus receives and records the television program and the program information.

[Claims]

[Claim 1] A television program recording system in which a television program and program information of the television program are broadcast from a broadcast station and received and recorded by a broadcast reception apparatus, characterized in that

the program information includes program portion information of each of a plurality of program portions obtained by dividing the whole television program, the program portion information indicating a pair of an item name assigned on the basis of content of the program portion and a broadcast time at which the program portion of the television program is broadcast.

[Claim 2] The television program recording system as claimed in Claim 1,

wherein the program information further includes program portion group information of a program portion group obtained by grouping a plurality of the program portions, the program portion group information indicating a pair of an item name assigned on the basis of whole content of the program portion group and a broadcast time at which the whole program portion group of the television program is broadcast, and wherein the program information is represented by a tree structure that is composed of the program portion groups as higher-level program portions and the plurality of program portions as lower-level program portions.

[Claim 3] The television program recording system as

claimed in Claim 1, wherein the program information of the television program is transmitted after an end of broadcasting of the television program, and

wherein a scheduled time of transmission of the program information is transmitted as scheduled time information during the broadcasting of the television program, and the broadcast reception apparatus is automatically powered on at the scheduled time thereby receiving and recording the program information.

[Claim 4] A broadcast reception apparatus that receives and records television programs and program information of the television programs which are broadcast from a broadcast station, the program information including program portion information of each of a plurality of program portions obtained by dividing the whole of one of the television programs, the program portion information indicating a pair of an item name assigned on the basis of content of the program portion and a broadcast time at which the program portion of the television program is broadcast, wherein the broadcast reception apparatus is characterized by comprising

browser means for generating a program list using the program information and displaying the program list on a screen, the program list being a list composed of the item names included in the program information.

[Claim 5] The broadcast reception apparatus as claimed in Claim 4, wherein the browser means is configured to separately display only CM-related information included in

the program information, in a part of the screen displaying the program list.

[Claim 6] The broadcast reception apparatus as claimed in Claim 4, wherein after an end of the recording of the television program and the program information of the television program, selection of one or plural names from the item names is effected on the screen displaying the program list, and a program portion of the recorded television program corresponding to the selected item name is played or processed in response to an input from outside.

[Detailed Description of the Invention]

[0001]

[Technical Field to which the Invention belongs] The present invention relates to a television program recording system in which a television program and program information of the television program are broadcast from a broadcast station and received and recorded by a broadcast reception apparatus, and to the broadcast reception apparatus.

[0002]

[Prior Art] When recording a television program while away from home and later playing the recorded program to watch, the following situation can arise. In the case of such a program that is tentatively recorded after reading a simple description on the television page of the newspaper and the like, since the user plays and watches the program but its content is not what he/she expected, the user checks the whole content by fast forward to make sure that the content

is indeed not what he/she expected, and then deletes the program. To avoid this situation, a proposition has been made to generate digest information that concisely represents the content of each recorded program to allow the user to easily check, with reference to the digest information, whether or not the recorded program is worth watching (Japanese Patent Application Publication No. H08-294083). However, with this technique, it is impossible to acquire a listing of events in the program in accordance with the progress of the program. Especially in such a case where the user records a song program in which his/her favorite singer participates but wants to watch only a portion where that singer appears, though the user may be able to confirm that the singer appears on the program from the digest information, the user cannot know, for example, how many minutes after the start of the program the signer appears. Accordingly, it is impossible to play and watch only the desired portion of the recorded program.

[0003]

[Problems to be Solved by the Invention] As described above, conventionally the user can only be provided with information of the content of the program which is recorded while away from home to such an extent that allows for a brief check of whether or not the recorded program is worth watching, and cannot know the detailed content of the program, in which portion of the program a component included in a content structure of the program is positioned in terms of time, and

the like. Therefore, it is impossible to easily and accurately play only a desired portion of the program or edit the program by deleting an unnecessary portion of the program.

[0004] The present invention was made to solve the above problem, and has an object of providing a television program recording system that enables a user to quickly recognize a detailed content structure of a recorded program and a broadcast reception apparatus used in the television program recording system.

[0005]

[Means for Solving the Problems] To solve the stated problem, the television program recording system according to the present invention (Claim 1) is a television program recording system in which a television program and program information of the television program are broadcast from a broadcast station and received and recorded by a broadcast reception apparatus, wherein the program information includes program portion information of each of a plurality of program portions obtained by dividing the whole television program, the program portion information indicating a pair of an item name assigned on the basis of content of the program portion and a broadcast time at which the program portion of the television program is broadcast.

[0006] Moreover, the television program recording system according to the present invention (Claim 2) is the television program recording system as claimed in Claim 1, wherein the program information further includes program

portion group information of a program portion group obtained by grouping a plurality of program portions, the program portion group information indicating a pair of an item name assigned on the basis of whole content of the program portion group and a broadcast time at which the whole program portion group of the television program is broadcast, and wherein the program information is represented by a tree structure that is composed of the program portion groups as higher-level program portions and the plurality of program portions as lower-level program portions.

[0007] Moreover, the television program recording system according to the present invention (Claim 3) is the television program recording system as claimed in Claim 1, wherein the program information of the television program is transmitted after an end of broadcasting of the television program, and wherein a scheduled time of transmission of the program information is transmitted as scheduled time information during the broadcasting of the television program, and the broadcast reception apparatus is automatically powered on at the scheduled time thereby receiving and recording the program information.

[0008] Moreover, the broadcast reception apparatus according to the present invention (Claim 4) is a broadcast reception apparatus that receives and records television programs and program information of the television programs which are broadcast from a broadcast station, the program information including program portion information of each of a plurality

of program portions obtained by dividing the whole of one of the television programs, the program portion information indicating a pair of an item name assigned on the basis of content of the program portion and a broadcast time at which the program portion of the television program is broadcast, wherein the broadcast reception apparatus is characterized by comprising browser means for generating a program list using the program information and displaying the program list on a screen, the program list being a list composed of item names included in the program information.

[0009] Moreover, the broadcast reception apparatus according to the present invention (Claim 5) is the broadcast reception apparatus as claimed in Claim 4, wherein the browser means is configured to separately display only CM-related information included in the program information, in a part of the screen displaying the program list.

[0010] Moreover, the broadcast reception apparatus according to the present invention (Claim 6) is the broadcast reception apparatus as claimed in Claim 4, wherein after an end of the recording of the television program and the program information of the television program, selection of one or plural names from the item names is effected on the screen displaying the program list and a program portion of the recorded television program corresponding to the selected item name is played or processed in response to an input from outside.

[0011]

[Embodiments of the Invention]

(First Embodiment) Program information of a television program which is broadcast in a television program recording system according to the first embodiment is described first. Fig. 1 shows an example of program information of a half-hour variety show program. A field of item name 1 shows the content that is broadcast in the program by dividing the program into a plurality of (22 in Fig. 1) program portions according to the content in broadcasting order and assigning an item name corresponding to the content of each program portion. A field of time 2 shows, for each item name, a broadcast start time at which a program portion of the item name is broadcast. This program information of the program is generated in a broadcast station that broadcasts the program, and broadcast simultaneously with the program. In the case of implementing on an existing terrestrial television broadcast system, a vertical blanking interval of a video signal of television broadcasting is used for the broadcasting of the program information, as with teletext broadcasting. In the case of satellite digital broadcasting, on the other hand, one channel is assigned to the broadcasting of the program information.

[0012] Note that, instead of showing the time at which the broadcasting of each program portion is actually started, the field of time 2 may show, as the time of each program portion, a relative time from a program start time which is set to 00.00.00 to a broadcast start time of the program portion.

Referring to the example of Fig. 1, 10.00.00 on the first line is displayed as 00.00.00, 10.01.00 on the second line is displayed as 00.01.00, and 10.04.00 on the third line is displayed as 00.04.00. In this case too, the position of each program portion in the program can be indicated as in the case of showing the broadcast start time of each program portion.

[0013] In the television program recording system of the first embodiment, not only to enable quick recognition of the content structure of the recorded program by displaying the program information on a screen but also to allow for an operation on the screen so as to perform playback, editing, and the like of the recorded program, the display of the program information on a screen of a television personal computer by a browser is made possible. Therefore, it is preferable to use highly versatile HTML syntax which is used in the Internet, as one syntax for the program information. In such a case, the program information is displayed by an HTML browser.

[0014] Next, Fig. 2 shows a result of writing the program information example shown in Fig. 1 using HTML syntax. In Fig. 2, the program information is represented by a tree structure (TREE structure). <A HREF=”all.idx” xFONT SIZE=+2xB> indicates that “morning variety show (1997/o/o 10:00-10:30)”, which is a title portion of the program, is the title portion of the program and at a highest level in the TREE structure. Descriptions such as <DTxA

HREF=”opening.idx” xB>, <DTxA HREF=”news.idx” xB>, <DDxA HREF=” news1.idx” xB>, and <DDxAHREF=”news2.idx” xB> respectively indicate that program portions “opening”, “news”, “Tokyo yen, upper 120 yen range”, and “earthquake swarm lull continues” are program portions obtained by dividing the whole program into a plurality of portions, and that “opening” is a program portion of independent content whereas “news” is further divided into a plurality of program portions such as “Tokyo yen, upper 120 yen range” and “earthquake swarm lull continues” which are at a lower level of “news”. In addition, a start time and an end time of each program portion (100000, 100100 in the case of “opening”) are included in an index file of the program portion (opening.idx in the case of “opening”) to show a position of the program portion in the recorded program, that is, a part of recorded data corresponding to the program portion. Moreover, if a file name is included in each index file so as to identify each program portion as one file, it is possible to access a program portion using a file name.

[0015] The program information written using the above-mentioned HTML syntax is displayed by a browser as a program list in a broadcast reception apparatus. Fig. 3 shows an example of displaying the program information which is written in the HTML syntax in Fig. 2, on the screen as a program list. In Fig. 3, in accordance with the HTML syntax description shown in Fig. 2, “morning variety show (1997/o/o 10:00-10:30)” which is the title portion of the program is

displayed first in double size on the screen so as to be easily identifiable as the title portion of the program positioned at the highest level in the TREE structure. Following this, “opening” is displayed singly. “Tokyo yen, upper 120 yen range”, “earthquake swarm lull continues and the like are listed below “news”, to enable recognition that these are lower-level program portions of content as a result of classification of their higher-level program portion “news”. These program portions are displayed in recording order. Further, for higher-level program portions such as “opening”, “news”, “weather forecast”, and “CM”, their recording times (such as 1 minute, 9 minutes, 5 minutes, and 1 minute, respectively) are displayed.

[0016] Note that item names (phonet.) of program portions “baba shokuhin”, “tsuruta hoken”, “misawa kasai”, and “tagami seiko” classified according to sponsor are shown at a lower level of “CM” in the above program list in the same way as other program portions, but instead the data of the “CM” portion may exclusively be separately displayed from the program list in a part of the screen displaying the program list, as shown in Fig. 4. In such a case, in the screen part displaying “CM”, an item name itself displayed in the program list may be displayed as shown in Fig. 4, or characters of a product name and the like or an image may be displayed. The image may be taken from a recorded broadcast CM. Furthermore, though the display order and occurrence frequency of the program portion of each sponsor in this screen part may be

random, service differentiation according to sponsorship fee can be achieved by determining the order and the frequency depending on sponsorship fee or the like. Alternatively, the above-mentioned screen part may be divided so as to simultaneously display the program portions of all sponsors.

[0017] Next, the broadcast reception apparatus operates on the screen of the program list according to the program information, to perform playback, editing, and the like of the recorded program. As explained with reference to Fig. 2, in the program information written in the HTML syntax, the start time and the end time of each program portion are included in the index file of the program portion to indicate the part of the recorded data corresponding to the program portion. Therefore, by registering an application for playing recorded data with a helper application, clicking an item name on the screen of the program list causes an index file of a corresponding program portion to be loaded, while enabling to play a part of recorded data corresponding to the program portion. Likewise, the recorded program can be subjected to processing such as deleting the recorded data part corresponding to the program portion just by clicking the item name, or rearranging the item name by a mouse operation so as to change the ordinal position of the recorded data part corresponding to the program portion in playback order. The content of the index file is 101000, 101500 in the case of “weather forecast”, 101010, and 101030 in the case of “general outlook”, 101030, 101100 in the case

of “nationwide”, 101100, 101300 in the case of “region”, and 101300, 101500 in the case of “weekly forecast”. This being so, recorded data parts corresponding to all of the lower-level program portions “general outlook”, “nationwide”, “region”, and “weekly forecast” are selected by clicking the item name “weather forecast” of the higher-level program portion on the screen. By further clicking, for example, the item name “region”, it is possible to select only the recorded data part corresponding to “region”.

[0018] One example of a specific structure of the broadcast reception apparatus is described here. Fig. 4 is a block diagram showing one example of a structure of the broadcast reception apparatus of the first embodiment. In Fig. 4, 10 is broadcast reception means for receiving the television program and the program information, 11 is a hard disk on which the television program received by the broadcast reception means 10 is recorded/saved, 12 is information holding means for holding the program information received by the broadcast reception means 10, and 13 is a browser for playing or processing the television program recorded/saved on the hard disk 11 according to the program information in the information holding means 12. Its operation is described below. The broadcast television program and program information are received by the broadcast reception means 10. The television program is recorded to be saved on the hard disk 11, whereas the program information is held in the information holding means 12. After the recording ends, the

user has the browser 13 display the program information held in the information holding means 12 on the screen as a program list. The user operates on the screen of the program list to play the television program recorded/saved on the hard disk 11 on the screen, or operates on the screen of the program list to process the television program recorded/saved in the hard disk 11 by, for example, deleting a program portion other than a program portion which the user wants to save and save only the program portion which the user wants to save onto the hard disk 11.

[0019] Note that, though the recording medium on which the television program is recorded may be tape instead of a hard disk, it is preferable to adopt a DVD and the like for advantages such as a capability of immediate access to a specific portion and a large capacity. As a result, the above-mentioned processing of the recorded data can be performed more rapidly and appropriately.

[0020] In the first embodiment, the program information showing the broadcast start times of the plurality of program portions obtained by dividing the television program is broadcast from the broadcast station together with the television program, while enabling to acquire detailed in-program information including the program portions and their broadcast times. Moreover, because the program information is displayed on the screen as a program list in the receiver, in the case of recording the television program, the content structure of the recorded program can be quickly recognized

from the program list. In addition, in the program information written in the HTML syntax, the index file of each program portion includes the start time and the end time of the program portion and also the index file of each higher-level program portion includes the total start time and end time of its lower-level program portions, with this program information being represented by a tree structure. Accordingly, through an operation on the screen such as clicking an item name on the screen of the program list, playback or processing can be easily performed on each individual program portion in the recorded program or on all program portions of a designated higher-level program portion. Also, since the CM data is separately displayed from the program list in a part of the screen for displaying the program list, even in the case where the user deletes the CM data by editing and plays only the program content, the user can see the CM data when checking the program content on the program list. As a result, the broadcast station and especially sponsors can avoid the situation where CMs are deleted without being watched at all.

[0021] Note that, though in the first embodiment the program information of the television program is broadcast simultaneously with the program as described above, the program information may be broadcast before the program. In this case, the user can check the program content with the program information and timer-record only an interesting portion of the program.

[0022] (Second Embodiment) The user may want to play the television program immediately after the recording ends, so that it is preferable to broadcast the program information of the television program simultaneously with the television program. However, in case of live broadcasting, there is a possibility that the program information cannot be generated beforehand or, even when the program information is generated and broadcast simultaneously with the television program, the broadcasting might change to another program different from the program information at some midpoint. In such a case, the program information is broadcast after the program ends. However, since the broadcast reception apparatus is powered off after the recording ends, it becomes impossible to receive and record the program information. In view of this, the second embodiment describes a television program recording system in which, even when the program information of the television program is broadcast after the broadcasting of the television program is ended, the program information can be received and recorded.

[0023] Because the program information of the television program used in the first embodiment is broadcast after the broadcasting of the television program ends, during the broadcasting and recording of the television program, a scheduled time at which the program information is broadcast is broadcast instead of the program information, as scheduled time information. When the scheduled time is reached, the broadcast reception apparatus is automatically powered on so

as to receive and record the program information.

[0024] The scheduled time information is a file showing the scheduled time, and a predetermined extension is used for its file name to distinguish from the program information. However, even when the same HTML format as the program information is used, it is possible to extract the scheduled time so long as some kind of predetermined identifier indicating the scheduled time is inserted in the file.

[0025] Its operation is described with reference to Fig. 5. At the time of broadcasting the television program, the television program and the scheduled time information of the program of the television program are received by the broadcast reception means 10. The television program is recorded/saved on the hard disk 11, whereas the scheduled time information is stored in the information holding means 12 as a result of information judgment means 14 judging that the input information is the scheduled time information from the extension of the file name or the identifier in the file name as mentioned above. Control means 17 compares the scheduled time information stored in the information holding means 12 with a current time obtained from a clock 16. When the current time exceeds the scheduled time, in accordance with the scheduled time information in a scheduled time information holding means 15, the control means 17 powers on the broadcast reception means to start operation and receive the program information of the television program. After this, in the same manner as in the first embodiment, the user

has the browser 13 to display the program information held in the information holding means 12 on the screen as a program list. The user operates on the screen of the program list to play the television program recorded/saved on the hard disk 11 on the screen, or operates on the screen to process the television program recorded/saved in the hard disk 11 by, for example, deleting a program portion other than a program portion which the user wants to save and save only the program portion which the user wants to save onto the hard disk 11.

[0026] Thus, the television program recording system according to the second embodiment is the television program recording system as recited in Claim 1, wherein the program information of the television program is transmitted after an end of broadcasting of the television program, and a scheduled time of transmission of the program information is transmitted as scheduled time information during the broadcasting of the television program, and the broadcast reception apparatus is automatically powered on at the scheduled time to receive and record the program information. Therefore, even if, as in the case of a television program of live broadcasting and the like, program information cannot be broadcast when broadcasting the television program, the broadcast station can generate and broadcast the program information after ending of the television program. Moreover, even if the program information is broadcast only after the television program ends, the user can record the program

information automatically and passively.

[0027]

[Advantage of the Invention] As described above, the television program recording system according to the present invention (Claim 1) is a television program recording system in which a television program and program information of the television program are broadcast from a broadcast station and received and recorded by a broadcast reception apparatus, wherein the program information includes program portion information of each of a plurality of program portions obtained by dividing the whole television program, the program portion information indicating a pair of an item name assigned on the basis of content of the program portion and a broadcast time at which the program portion of the television program is broadcast. This has the advantage of obtaining detailed in-program information made up of program portions and their broadcast times.

[0028] Moreover, the broadcast reception apparatus according to the present invention (Claim 2) is the television program recording system as claimed in Claim 1, wherein the program information further includes program portion group information of a program portion group obtained by grouping the plurality of the program portions, the program portion group information indicating a pair of an item name assigned on the basis of whole content of the program portion group and a broadcast time at which the whole program portion group of the television program is broadcast, and wherein the

program information is represented by a tree structure that is composed of the program portion groups as higher-level program portions and the plurality of program portions as lower-level program portions. Therefore, with an operation on a screen of the program list such as clicking an item name on the screen, it is possible to designate a higher-level program portion and play or process a plurality of program portions all at once.

[0029] Moreover, the television program recording system according to the present invention (Claim 3) is the television program recording system as claimed in Claim 1, wherein the program information of the television program is transmitted after an end of broadcasting of the television program, and a scheduled time of transmission of the program information is transmitted as scheduled time information during the broadcasting of the television program, and the broadcast reception apparatus is automatically powered on at the scheduled time thereby receiving and recording the program information. This has the following advantage. Even if, as in the case of a television program of live broadcasting and the like, program information cannot be broadcast when broadcasting the television program, the broadcast station can generate and broadcast the program information after ending of the television program. Also, even if the program information is broadcast only after the television program ends, the user can record the program information automatically and passively.

[0030] Moreover, the broadcast reception apparatus according to the present invention (Claim 4) is a broadcast reception apparatus that receives and records a television program and program information of the television program which are broadcast from a broadcast station, the program information including program portion information of each of a plurality of program portions obtained by dividing the whole television program, the program portion information indicating a pair of an item name assigned on the basis of content of the program portion and a broadcast time at which the program portion of the television program is broadcast, the apparatus comprising browser means for generating a program list using the program information and displaying the program list on a screen, the program list being a list composed of item names included in the program information. This has the advantage of enabling quick recognition of the content structure of the recorded program from the program list, in the case of recording the television program.

[0031] Moreover, the broadcast reception apparatus according to the present invention (Claim 5) is the broadcast reception apparatus as claimed in Claim 4, wherein the browser means separately displays only CM-related information included in the program information, in a part of the screen displaying the program list. Therefore, even in the case where the user deletes the CM data by editing and plays only the program content, the user can see the CM data when checking the program content on the program list. This has the advantage

of avoiding the situation where CMs are deleted without being watched at all, for the broadcast station and especially for sponsors.

[0032] Moreover, the broadcast reception apparatus according to the present invention (Claim 6) is the broadcast reception apparatus as claimed in Claim 4, wherein after ending of the recording of the television program and the program information of the television program, at least one item name is selected from the item names on the screen displaying the program list and a program portion of the recorded television program corresponding to the selected item name or names is played or processed according to an input from outside. This has the advantage of being able to play or process each program portion in the recorded program with an operation on the screen of the program list such as clicking an item name on the screen.

[Brief Description of the Drawings]

[Fig. 1] Fig. 1 shows one example of program information of a television program which is broadcast in a television program recording system according to a first embodiment of the present invention.

[Fig. 2] Fig. 2 shows an example of writing the program information shown in Fig. 1 in the HTML syntax.

[Fig. 3] Fig. 3 shows an example of displaying the program information shown in Figs. 1 and 2 on a screen as a program list.

[Fig. 4] Fig. 4 shows another example of a display screen of

the program list.

[Fig. 5] Fig. 5 shows one example of a broadcast reception apparatus used in the embodiments of the present invention.

[Description of Symbols]

1: item name

2: time

10: broadcast reception means

11: hard disk

12: information holding means

13: browser

14: information judgment means

15: scheduled time information holding means

16: clock

17: control means

[Drawings]

[Fig. 1]

1: ITEM NAME

2: TIME

1) MORNING VARIETY SHOW (1997/○/○ 10:00-10:30) OPENING

2) NEWS

3) TOKYO YEN, UPPER 120 YEN RANGE

4) EARTHQUAKE SWARM LULL CONTINUES

5) TOLL MODIFICATION

6) ALL JAPAN SWEEP IN WORLD CUP

7) WEATHER FORECAST

GENERAL OUTLOOK

8) NATIONWIDE

9) REGION

10) WEEKLY FORECAST

11) CM

BABA SHOKUHIN

12) TSURUTA HOKEN

13) MISAWA KASAI

14) TAGAMI SEIKO

15) TALK (GUEST: RASHA KIMURA)

16) SONG (GUEST: HIGUCHI JO)

17) ANNOUNCEMENT FOR PRESENT (ITEM: CHAMPION BELT)

18) ENDING

19) CM

BABA SHOKUHIN

20) TSURUTA HOKEN

21) MISAWA KASAI

22) TAGAMI SEIKO

[Fig. 2]

1) MORNING VARIETY SHOW (1997/o/o 10:00-10:30)

2) OPENING (1 MINITE)

3) NEWS (9 MINUTES)

4) TOKYO YEN, UPPER 120 YEN RANGE

5) EARTHQUAKE SWARM LULL CONTINUES

6) TOLL MODIFICATION

7) ALL JAPAN SWEEP IN WORLD CUP

8) WEATHER FORECAST (5 MINUTES)

9) GENERAL OUTLOOK

10) NATIONWIDE

11) REGION

12) WEEKLY FORECAST

13) CM (1 MINUTE)

14) BABA SHOKUHIN

15) TSURUTA HOKEN

16) MISAWA KASAI

17) TAGAMI SEIKO

18) TALK (5 MINUTES) (GUEST: RASHA KIMURA)

19) SONG (4 MINUTES) (GUEST: HIGUCHI JO)

20) ANNOUNCEMENT FOR PRESENT (3 MINUTES) (ITEM: CHAMPION BELT)

21) ENDING (1 MINUTE)

22) CM (1 MINUTE)

23) BABA SHOKUHIN

24) TSURUTA HOKEN

25) MISAWA KASAI

26) TAGAMI SEIKO

[Fig. 3]

1) FILE

2) EDIT

3) VIEW

4) GO

5) BOOKMARKS

6) OPTIONS

7) DIRECTORY

8) WINDOW

9) HELP

10) SITE

11) WHAT'S NEW

12) RECOMMENDATIONS

13) LINKS

14) NET SEARCH

15) PEOPLE

16) MORNING VARIETY SHOW (1997/o/o 10:00-10:30)

17) OPENING (1 MINITE)

18) NEWS (9 MINUTES)

19) TOKYO YEN, UPPER 120 YEN RANGE

20) EARTHQUAKE SWARM LULL CONTINUES

21) TOLL MODIFICATION

22) ALL JAPAN SWEEP IN WORLD CUP

23) WEATHER FORECAST (5 MINUTES)

24) GENERAL OUTLOOK

25) NATIONWIDE

26) REGION

27) WEEKLY FORECAST

28) CM (1 MINUTE)

29) BABA SHOKUHIN

30) TSURUTA HOKEN

31) MISAWA KASAI

32) TAGAMI SEIKO

33) TALK (5 MINUTES) (GUEST: RASHA KIMURA)

34) SONG (4 MINUTES) (GUEST: HIGUCHI JO)

35) ANNOUNCEMENT FOR PRESENT (3 MINUTES) (ITEM: CHAMPION BELT)

36) ENDING (1 MINUTE)

37) CM (1 MINUTE)

38) BABA SHOKUHIN

39) TSURUTA HOKEN

40) MISAWA KASAI

41) TAGAMI SEIKO

42) DOCUMENT: DONE

[Fig. 4]

1) FILE

2) EDIT

3) VIEW

4) GO

5) BOOKMARKS

6) OPTIONS

7) DIRECTORY

8) WINDOW

9) HELP

10) SITE

11) WHAT'S NEW

12) RECOMMENDATIONS

13) LINKS

14) NET SEARCH

15) MORNING VARIETY SHOW (1997/○/○ 10:00-10:30)

16) OPENING

17) NEWS

18) TOKYO YEN, UPPER 120 YEN RANGE

19) EARTHQUAKE SWARM LULL CONTINUES

20) TOLL MODIFICATION

21) ALL JAPAN SWEEP IN WORLD CUP

22) WEATHER FORECAST

23) GENERAL OUTLOOK NATIONWIDE REGION WEEKLY FORECAST

24) BABA SHOKUHIN TSURUTA HOKEN MISAWA KASAI TAGAMI SEIKO

25) TALK (GUEST: RASHA KIMURA)

26) SONG (GUEST: HIGUCHI JO)

27) ANNOUNCEMENT FOR PRESENT (ITEM: CHAMPION BELT)

28) ENDING

29) BABA SHOKUHIN TSURUTA HOKEN MISAWA KASAI TAGAMI SEIKO

30) BABA SHOKUHIN

31) DOCUMENT: DONE

[Fig. 5]

10: BROADCAST RECEPTION MEANS

11: HARD DISK

12: PROGRAM INFORMATION HOLDING MEANS

13: BROWSER

14: INFORMATION JUDGMENT MEANS

15: SCHEDULED TIME INFORMATION HOLDING MEANS

16: CLOCK

17: CONTROL MEANS

1) PROGRAM INFORMATION OR SCHEDULED TIME INFORMATION

2) PROGRAM INFORMATION

3) SCHEDULED TIME INFORMATION

4) TELEVISION PROGRAM